INTERNATE IAL SEARCH REPORT IB 03/02331 A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B21F23/00 B21F27/10 B21F27/20 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 **B21F** Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to daim No. A US 4 539 457 A (PINGER EGON ET AL) 1,2,14, 3 September 1985 (1985-09-03) 17.20 cited in the application column 5, line 51 - column 7, line 3; figures A PATENT ABSTRACTS OF JAPAN 1-3 vol. 1997, no. 01, 31 January 1997 (1997-01-31) -& JP 08 243763 A (SANYO DENKI KK). 24 September 1996 (1996-09-24) abstract A WO 95 06532 A (BERNARDINIS CLAUDIO 1,4 :ZEBELLONI CARINO (IT)) 9 March 1995 (1995-03-09) page 5, line 15 - page 6, line 7; claim 1; figure 2 Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: *T' later document published after the international fling date or priority date and not in conflict with the application but clied to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive stap when the cliation or other special reason (as specified) *O" document referring to an oral disclosure, use, exhibition or document is combined with one or more other such docu-ments, such combination being obvious to a person skilled other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

26 November 2003

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